

Amendments To The Claims:

1. (Previously presented) A stent comprising:
a plurality of serpentine bands;
adjacent serpentine bands being connected to one another by at least one permanent connector strut;
adjacent serpentine bands being connected to one another by at least one disengagable connector strut that is constructed and arranged to disengage by electrolytic detachment.
2. (Original) The stent of claim 1, wherein said at least one disengagable connector strut is made from a material having a higher corrosion potential than a material used to form said serpentine bands.
3. (Original) The stent of claim 1, further comprising an electrical lead that is electrically coupled to the stent.
4. (Original) The stent of claim 3, wherein said electrical lead is electrically coupled to said at least one disengagable connector strut.
5. (Original) The stent of claim 4, further comprising a plurality of disengagable connector struts, wherein said electrical lead is coupled to all of the disengagable connector struts.
6. (Original) The stent of claim 4, further comprising a plurality of disengagable connector struts and a second electrical lead, wherein each electrical lead connects to at least one disengagable connector strut.
7. (Original) The stent of claim 1, wherein the stent is at least partially self-expanding.
8. (Original) The stent of claim 7, wherein the stent self-expands to an intermediate deployment diameter, the stent being restrained from further expansion by said at least one disengagable connector strut.
9. (Original) The stent of claim 8, wherein the stent self-expands to a full deployment diameter upon disengagement of said at least one disengagable connector strut.
10. (Original) The stent of claim 1, wherein said at least one disengagable connector strut further comprises a necked portion.
11. (Original) The stent of claim 10, wherein said disengagement occurs at said necked portion.
12. (Original) The stent of claim 10, wherein said at least one disengagable connector strut is connected to a serpentine band at a necked portion.

13. (Original) The stent of claim 1, wherein upon disengagement of said at least one disengagable connector strut, said at least one disengagable connector strut no longer transmits forces between said adjacent serpentine bands.

14. (Original) The stent of claim 1, wherein said serpentine bands further comprise a plurality of alternating peaks and valleys; wherein said at least one permanent connector strut connects at a first end to a valley of one serpentine band and connects at a second end to a peak of an adjacent serpentine band; and wherein said at least one disengagable connector strut connects at a first end to a valley of one serpentine band and connects at a second end to a peak of an adjacent serpentine band.

15-34. (Cancelled)

35. (Previously presented) A stent comprising:

a cylindrical metal framework having a plurality of cells, said framework comprising a first serpentine band, a second serpentine band, a permanent connector strut connecting the first serpentine band to the second serpentine band, and a disengagable connector strut connecting the first serpentine band to the second serpentine band; wherein the number of cells decreases upon disengagement of said disengagable connector strut; and wherein the mass of the metal framework decreases upon disengagement of said disengagable connector strut.

36. (Original) The stent of claim 35, wherein cells on either side of said disengagable connector strut combine to form a single cell upon disengagement of said disengagable connector strut.

37. (Original) The stent of claim 36, wherein a portion of each cell is defined by a portion of a permanent connector strut after disengagement of said disengagable connector strut.

38. (Original) The stent of claim 35, wherein the stent is at least partially self-expanding.

39-54. (Cancelled)

Remarks

This Paper is filed in response to the Office Action dated **September 19, 2007**. Claims 1-14 and 35-38 are pending in this application. The Office Action rejected claims 1, 7-9, 13 and 14 under 35 USC § 102 over Richter (US 2002/0107560); rejected claims 35-38 under 35 USC § 102 over Bashiri (US 2003/0045923); rejected claims 2-6 and 10-12 under 35 USC § 103 over Richter; rejected claims 35-38 under 35 USC § 103 over Camrud (US 6258117).

The rejections presented in the Office Action are traversed. Reconsideration in view of the following remarks is requested.

Claim Rejections (Richter)

The Office Action rejected claims 1, 7-9, 13 and 14 under 35 USC § 102 over Richter, and also rejected claims 2-6 and 10-12 under 35 USC § 103 over Richter. These rejections are traversed.

35 USC § 102

The rejections under 35 USC § 102 are traversed because Richter does not disclose or suggest all of the limitations of independent claim 1.

Claim 1 recites, “at least one disengagable connector strut that is constructed and arranged to disengage by electrolytic detachment.”

Richter does not disclose or suggest electrolytic detachment. Richter teaches a stent having “designated detachment zones” that are designed to “separate under repeated stress placed on the stent after implantation.” See paragraph 0017. Thus, the detachable portions of the Richter stent are constructed and arranged to detach mechanically – via mechanical stress; not electrolytically as required by claim 1.

Richter teaches multiple ways to achieve the mechanical disengagement caused by stress, including portions of low cross-sectional area and portions made of a material that is sufficiently weaker than elsewhere in the stent. See e.g. paragraph 0009. Richter further states, “These components are configured to separate under the increased loads they bear when the stent is repeatedly stressed after implantation.” See paragraph 0009.

Richter does not mention electrolytic detachment, and does not teach any way of

achieving electrolytic detachment. For example, and for the sake of argument only, even if the Richter detachable zones are functionally capable of detaching *upon the provision of electricity*, Richter does not teach the provision of electricity. Thus, the Richter device would have to be modified in order to provide electricity, for example by adding an electrical lead, before it would truly be “constructed and arranged” for electrolytic detachment. The Richter device, as taught, is not constructed and arranged for electrolytic detachment.

Therefore, Applicants assert that Richter does not disclose or suggest each limitation of claim 1, and that claim 1 is patentable over Richter under 35 USC § 102. Claims 7-9, 13 and 14 depend from claim 1 and are patentable over Richter for at least the reasons discussed with respect to claim 1. Accordingly, Applicants request withdrawal of the rejections under 35 USC § 102 over Richter.

35 USC § 103

The rejections under 35 USC § 103 apply the Richter reference alone. Thus, the rejection does not propose to modify Richter in view of any other reference.

Each claim rejected over Richter under 35 USC § 103 depends from claim 1. Applicants have asserted above that Richter does not disclose or suggest electrolytic detachment, and therefore, that Richter does not disclose or suggest each limitation of claim 1. The rejections under 35 USC § 103 do not apply teachings from any other reference. Therefore, the rejections do not disclose or suggest all of the limitations of claim 1, or of any of the dependent claims rejected under 35 USC § 103.

The rejections assert that various limitations from claims 2-6 and 10-12 would have been obvious “as a matter of design choice.” See Office Action at pages 4-5. The rejections fail to assert any prior art teaching that would motivate a person of ordinary skill in the art to choose the claimed configuration(s) over and above any other possible configuration that would have been available. Thus, the rejection does not provide any teaching that makes the configurations of claims 2-6 and 10-12 obvious.

Although the rejections assert that electrolytic detachment would have been obvious, they do not apply any reference that teaches electrolytic detachment. Thus, the only motivation for using electrolytic detachment in the rejection, as presented, stems from an

impermissible hindsight use of Applicants' own disclosure.

The rejections do not provide any motivation for modifying Richter such that it would be configured for electrolytic detachment. The Richter detachment zones, as taught, are intended to disengage mechanically after implantation. Although it may have been possible to modify Richter for electrolytic detachment, the rejection has not asserted any reason why a person of ordinary skill in the art would be motivated to do so.

Therefore, Applicants assert that the rejections do not establish a *prima facie* case of obviousness against the rejected claims. Accordingly, Applicants request withdrawal of the rejections under 35 USC § 103 over Richter.

Claim Rejections (Bashiri)

The Office Action rejected claims 35-38 under 35 USC § 102 over Bashiri. These rejections are traversed.

Independent claim 35 recites, "wherein the mass of the metal framework decreases upon disengagement of said disengagable connector strut."

The rejection recites some of the limitations from claim 35, but does not mention the quoted limitations above.

Bashiri teaches a stent having frangible restraining members that are designed to break when the stent is subject to expansion forces, such as the forces provided by an inflation balloon. See paragraph 0037. Thus, Bashiri teaches a disengagement by mechanical force.

Bashiri does not teach that the mass of the stent decreases upon disengagement, as would be required to meet the limitations of claim 1. A person of ordinary skill in the art would recognize that the Bashiri frangible restraining members are capable of breaking without losing any mass. Thus, the aforementioned limitations of claim 35 are not inherent in Bashiri.

A stent according to claim 35 must lose mass upon disengagement of the disengagable connector strut. For example, Applicants teach disengagement by electrolytic detachment. A person of ordinary skill in the art would recognize that electrolytic detachment, whether achieved via electrical current, chemical reaction or some other means, causes some loss of mass.

Therefore, Applicants assert that Bashiri does not disclose or suggest each

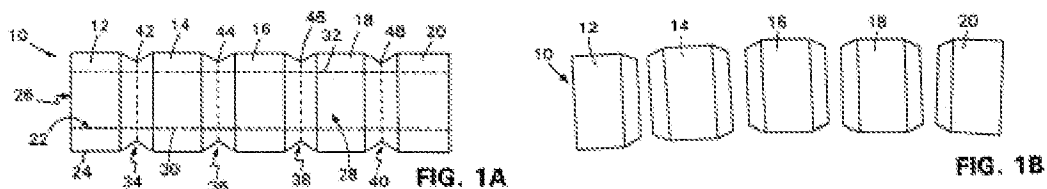
limitation of claim 35, and that claim 35 is patentable over Bashiri under 35 USC § 102. Claims 36-38 depend from claim 35, and are patentable over Bashiri for at least the reasons discussed with respect to claim 35. Accordingly, Applicants request withdrawal of the rejections under 35 USC § 102 over Bashiri.

Claim Rejections (Camrud)

The Office Action rejected claims 35-38 under 35 USC § 103 over Camrud.

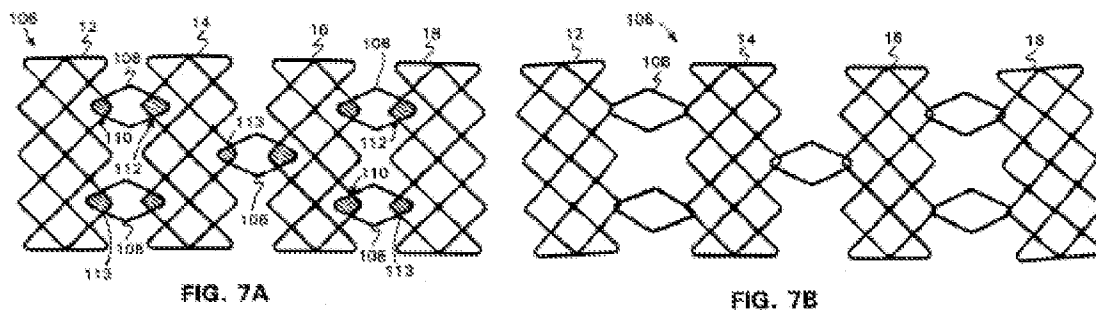
These rejections are traversed.

Camrud teaches a multi-section stent that is capable of breaking apart into multiple sections after deployment in a vessel. See e.g. column 1, lines 30-39 and Figures 1A and 1B, provided below.



Camrud teaches another embodiment, for example as shown in Figure 7A, wherein the multiple sections remain connected after deployment via interlocking links 108.

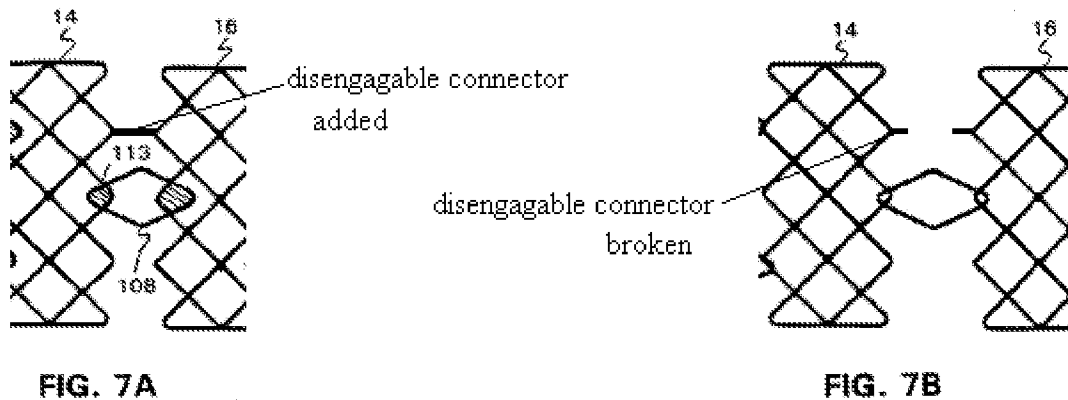
This embodiment is provided with breakable or degradable material 113, which temporarily fortifies the connections, but then allows movement upon breakage or degradation. See Figures 7A and 7B, provided below, and column 10, lines 7-19.



The Office Action proposes to add disengagable/breakable connector struts to the embodiment of Figure 7A, and states that “doing so would provide the stent with increased flexibility.” See Office Action at page 6.

The rejection does not provide a drawing of the modified structure proposed in the

rejection, so Applicants have modified Figures 7A and 7B to show a stent as proposed, both before and after detachment/breakage of the disengagable connector.



Applicants assert that the rejection does not provide an actual motivation for modifying Camrud, and that a person of ordinary skill in the art would not perform the proposed modification. Further, even if the modification were performed, the resulting structure would not meet the limitations of the rejected claims.

The rejection asserts that adding disengagable connector struts would provide the stent with increased flexibility, however, a person of ordinary skill in the art would recognize that adding connectors to Figure 7A would actually decrease flexibility of the stent. The original Camrud stent of Figure 7A would be more flexible than the modified version illustrated above. Thus, the rejection does not provide an actual motivation to make the proposed modification.

A person of ordinary skill in the art would not make the proposed modification because it is unnecessary. The embodiment of Figure 7A provides connections that loosen after the stent is deployed, and therefore, the stent is sufficiently rigid for delivery prior to deployment, and sufficiently flexible after deployment. There is no reason to add breakable connections to Figure 7A. If it was desired to have a complete separation between the adjacent segments, a person of ordinary skill in the art would simply use another embodiment, such as Figure 1, rather than modify the embodiment of Figure 7A by adding unnecessary structure.

Further, claim 35 recites “wherein the mass of the metal framework decreases upon disengagement of said disengagable connector strut.”

As discussed above, Camrud makes a distinction between breakable connections and degradable connections, and discusses materials that are suitable for each. Degradable

materials include fibrin, collagen, polymers, etc. See column 9, lines 10-13. Breakable materials include materials listed for degradable materials, and also include gold, silver, stainless steel, etc. See column 9, lines 15-21.

A person of ordinary skill in the art would recognize that all of the materials Camrud discloses as suitable for the degradable connections are non-metallic.

Although the breakable connections could be metal, there is no teaching that the stent loses mass when the breakable connections break. Camrud only teaches breakage due to mechanical force/stress. A person of ordinary skill in the art would recognize that the Camrud breakable connections are capable of breaking due to mechanical force without losing any mass. Thus, the limitations of claim 35 directed to a decrease in mass of the metal framework are not inherent in the Camrud breakable connectors.

With respect to the degradable connections, although the mass of the degradable material will reduce, the degradable connections are not made of metal. Thus, the mass of the metal framework will not reduce as the degradable connections degrade, and Camrud does not disclose or suggest the mass of the metal framework of the stent reducing as required by claim 35. Therefore, Applicants assert that the rejection does not present a prior art teaching of each limitation of at least claim 35.

In view of the above remarks, Applicants assert that the rejection does not establish a *prima facie* case of obviousness against independent claim 35, and that claim 35 is patentable over Camrud. Claims 36-38 depend from claim 35, and are patentable over Camrud for at least the reasons discussed with respect to claim 35. Accordingly, Applicants request withdrawal of the rejections over Camrud.